

To the Claims

Please cancel without prejudice claims ~~54, 83-95, 99, 107-109, 111, 114, 116, 123-126, 129, and 134~~.

Please amend claims 115, 130, and 132 to read as follows. (A marked up version of the amended claims is attached at the end of this Amendment and Response.)

115. (Twice Amended) An apparatus comprising:

- a) a sample introduction zone;
- b) an electrophoretic separation channel in communication with said introduction zone;
- c) at least one peptide nucleic acid probe modified with a label, said label comprising a detectable moiety, said peptide nucleic acid probe disposed within said apparatus upstream of said separation channel and being mobilizable at least within the separation channel; and
- d) a sample incubation zone disposed in communication with the sample introduction zone and in communication with the separation channel.

130. (Amended) A kit for the separation of the components of a mixed sample solution of single stranded nucleic acids and their complementary strands, and for detecting therein a selected target sequence, including:

- (a) a microchip comprised of a substrate, an electroseparation channel and an injection channel formed in said substrate, said injection channel disposed for fluid communication with said electroseparation channel; and
- (b) a peptide nucleic acid (PNA) probe labeled with a detectable moiety, said PNA probe having a sequence complementary to at least a portion of said target sequence.

133. (Amended) The kit of claim 130, further comprising a denaturing electrophoretic medium.